

On May 18, 2010 I accompanied Water Quality Inspector Supervisor Vince Yantko on a field review relative to the ongoing Smitsky/Brown water supply complaint in Mt. Pleasant Twp., Washington County. The purpose of the review was for me to develop an opinion as to the geologic likelihood of the gas well drilling in the immediate area of the complaints having caused the apparent change in water quality in the water supplies in question. Water Quality Specialist Bryon Miller is the primary investigator for the complaint but he was unable to attend the review. We met Carla Suzkowski of Range resources along with a consultant from CEC Consulting and discussed some aspects of the complaints with them.

The Brown family owns both the Brown and Smitsky residences with Smitsky being the renter. Several gas wells have been drilled by Range over the past 5 years in the area around the Brown and Smitsky residences, but only one is within 1000 feet of either residence. The Gulla #1 well (125-22212) is located over 900 feet west of the Smitsky residence and over 1000 feet west-northwest of the Brown residence. The Gulla #1 well, along with most of the wells drilled near the complainants, was drilled on the opposite side of Chartiers Run from the Smitsky and Brown residences and their water supplies. Gulla #1 is about 125 feet higher in elevation than the water wells and it occupies the nose of a ridge opposite the broad stream valley where the complainants residences are located.

On May 18, Vince and I attempted to meet with Mrs. Brown relative to the complaints but Mrs. Brown was unavailable to meet with us. We were able to locate both the Brown and Smitsky residences in the field. As Bryon had previously sampled the water wells and collected the well data, we needed only to know where the residences were located to identify an approximate location of the water wells. The Smitsky water well is about 25 years old, drilled to a depth of 80 feet, and uses a submersible pump to supply water for the two adults living in residence. The Brown water well is buried and is of unknown age and depth.

We also visited several of the gas well locations and verified that the permitted Range well 125-22798 has not been drilled and no site has been constructed for it. That well would have been upslope and within about 1000 feet of the complaint residences. Thus, the Gulla # 1 well is the closest to the residences. Our computer records show that it was drilled to a depth of 2095 feet from 7-31-05 to 8-5-05 and was drilled deeper to a depth of 6612 feet from 3-5-07 to 3-12-07. The drilling of the top hole section for this well would have been over 4 years prior to the quality complaint being reported to the Department.

The Chartiers Run valley and much of the surrounding area are mapped geologically as Monongahela Group on the "Generalized Geologic Map of Washington County" (W38 Plate 1 - 1974). The Monongahela is described as "Dense and massive to thin-bedded limestone, discontinuous shale and sandstone and several mineable coals" by the same publication. These lithic units are probably relatively flat-lying and may be heavily fractured in a northwest/southeast trend along Chartiers Run. That fracture zone and associated flow system would likely extend to some depth and separate the shallow aquifers on either side of Chartiers Run from activities occurring on the opposite side. Thus drilling activity at the Gulla #1 well site would not be expected to cause changes at the water supplies in question.

In summary, the closest gas well to either the Smitsky or the Brown residence, the Gulla #1, is over 900 feet away, across a stream valley and was drilled in 2005. The topographic and geologic setting of the area does not make it seem likely that a gas well drilled in the location of the Gulla #1 well would have caused a latent problem with the quality of either water well.